

BITULITHIC PAVEMENTS.

THE FINEST BOULEVARD IN THE WORLD.

M. Gerard Commissioner General of France at the World's Fair held in St. Louis last year, after inspecting the Bitulithic pavement of Lindell Boulevard in that city, said:

"It is the best paved street I have ever seen and would be a credit to Paris, or any other city." This is praise indeed, coming from so high an authority, and particularly from the fact that Paris, as is well known, has the finest streets in the world.

The adoption of the Bitulithic pavement by St. Louis, in which over twenty miles have been laid, was not decided upon hastily, but after long and careful investigation of street pavements by the most competent authorities. Experts visited the cities in which it had been laid, the laboratory of Warren Brothers Company at Cambridge, Mass., was critically inspected, the method of testing materials employed in the construction of the pavement was examined by the ablest chemists and when no definite defects in theory or in construction could be found, the Bitulithic pavement was adopted for the streets of St. Louis.

Rival paving companies brought suits against the city of St. Louis on the ground that they could furnish a pavement equal in all respects to Bitulithic, and expert chemists from all parts of the country were secured as witnesses, but not one could be found among them who claimed that he was able to duplicate the bitumens that are used in the Bitulithic construction. Judge Wood, before whom the suit was tried, dismissed the proceedings, saying in his decision that up to the time the case was brought no one had been able to produce the quality of bitumens called for by the St. Louis specifications except the Warren Brothers Company, and, therefore, the contention of the appellants had not been sustained. What was true at that time still remains the truth—no paving chemicals have yet been discovered equal to those produced by the Warren Brothers Company, and as their process of refining is patented it cannot be duplicated and all imitations have proved failures.

The wisdom of the Board of Public Works of St. Louis in selecting the Bitulithic pavement was later sustained at the World's Fair by the Supreme Jury of Awards. In the Model City at the Fair, samples of all known pavements were laid, and as may be supposed, these samples were the finest that workmanship could produce. The Jury of Awards on pavements was made up of men of world-wide fame for technical ability, and their verdict was unanimously in favor of the Bitulithic pavement, as the nearest approach to the ideal. This verdict was later unanimously confirmed by the Supreme Jury of Awards, and to the inventors of the Bitulithic Pavement was given the gold medal. This was the only award for pavements of any class made at the Fair, and asphalt, wood block, asphalt block, and brick, were among the competitors.

At the present time there are two large plants constantly employed in the city of St. Louis in order to complete the contracts for Bitulithic which have been awarded this year, the aggregate of these contracts being over 200,000 square yards. Petitions for the Bitulithic pavement from property owners for many thousands of yards more are now pending before the Board of Public Works.

How well St. Louis is pleased with this pavement may be inferred from the following letter of Charles Varrelmann, Street Commissioner of St. Louis for 27 years, to C. F. Ray & Co., Pueblo, Col.:

"In answer to yours of the 15th asking for my opinion as to the worth in qualities of Warren Brothers Bitulithic Pavement, I would say that the same has given entire satisfaction to this department, as well as to the property owners on all of the streets on which the pavement has been put down."

BITULITHIC PAVEMENT IN BIRMINGHAM, ALA.

Mayor R. E. Allen, Capt. W. M. Dunbar, Chairman of the Finance Committee, and City Engineer Nesbet Wingfield, of Augusta, Ga., recently made a special trip to Birmingham, Ala., for the sole purpose of inspecting the Bitulithic street



MAIN STREET, HIGH POINT, N. C.

pavement laid in that city by the Nashville Roofing and Paving Company. The committee inspected the paving that was being laid in Nineteenth Street and were very much impressed with the process of construction, which appealed to them as one of great durability.

The work from the solid foundation of broken stone to the completed finished pavement was closely watched, and no little surprise was expressed when the street was thrown open to traffic as soon as the steam road roller had completed rolling in the fine surface stone which is provided for the purpose of furnishing a sure footing for horses in all conditions of weather, a feature possessed by the Bitulithic pavement and to be found in no other smooth pavement.

Since the introduction in Birmingham, Ala., of the Bitulithic pavement, many streets have been paved with this ideal roadway, which has given universal satisfaction to city officials and property owners alike, the former being particularly pleased by the fact that the citizens in general so heartily endorse their selection of Bitulithic.

The construction of the Bitulithic pavement is so common sense in its theory, and effective in practice, that the wonder is that it had not been invented years ago, as road building has been a subject to which engineers since the days of early Rome, have given profound thought. In a word the Bitulithic pavement is composed entirely of broken stone so scientifically arranged that the completed pavement is within eight per cent of being a block of solid stone. The foundation course of broken stone is thoroughly rolled on a well prepared sub-grade with heavy steam road roller, the compression being continued until the mass is so thoroughly compacted that further compression is all but impossible. The bed of stone is then coated with especially

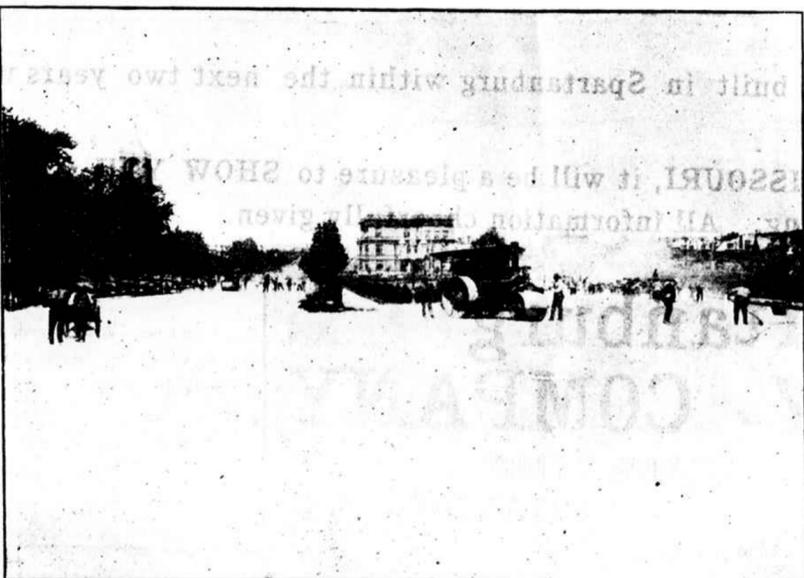
double purpose of forming a waterproof seal for the foundation stone prepared bitumen which serves the and preparing it to receive the wearing surface.

The wearing surface is composed of finer stones, which range in sizes from one inch to fine dust, so accurately proportioned that the voids or spaces between the larger ones are completely filled by the smaller ones, that the whole is practically solid. After the proportions of the sizes of stones have been determined by laboratory tests, the mass is treated with special bitumen in a mechanical mixer until every particle is coated. This mixture while hot is hauled to the street and spread to the required thickness and again rolled until thoroughly compressed. The surface is then coated with a quick-drying bituminous composition which renders the pavement absolutely waterproof. Upon this is spread and rolled fine stone chips which give the surface a gritty finish and provides an ideal footing for horses, and makes automobile driving a pleasure.

Hon. W. M. Drennen, Mayor of Birmingham, Ala., in a letter to Mr. M. A. Shields of Huntsville, Ala., says: "With reference to Warren's Bitulithic pavement, will say that several thousand yards of this pavement have been laid in this city and it has given entire satisfaction, not only to the mayor and aldermen, but to the citizens as well. I believe that it is a first-class pavement."

NASHVILLE'S IDEAL STREET PAVING.

The officials of Nashville, Tenn., were the first of any city in the South to recognize the superior merits of the Bitulithic pavement, and since that time several thousand yards of it have been laid in that city. Hon. Jas. M. Head, prominent



LINDELL BUILDING, ST. LOUIS, MO.

orses running at full speed, even on Broad Street, which is a very steep grade—one our firemen have heretofore dreaded to pass over. We have had no complaints nor reports from drivers of horses slipping, but on the other hand they are all well pleased and say their horses apparently have more confidence when going over the Bitulithic pavement."

Each year since the introduction in Nashville of the Bitulithic pavement, thousands of yards of it have been laid and a large bond issue is now being considered, the entire amount to be devoted to paving the streets with Bitulithic. It has been tried under every possible condition of traffic and has in every instance demonstrated its value and has fulfilled in every particular the claims of its inventors.

The adoption of this pavement has demonstrated its value as an investment, as its introduction everywhere has been followed by an increase in property value and consequently increased the returns.

Recently, Mr. Wm. Glassford, of Walla Walla, Washington, wrote to Hon. A. S. Williams, Mayor of Nashville Tenn., requesting his opinion of the value of the Bitulithic pavement. Mr. Williams replied as follows: "I would say that this city is using Warren's Bitulithic pavement, and after a trial of three years nothing has been found in the experience of the city to surpass it. It has been permanently adopted as paving material here."

HIGH POINT FOLLOWED GOOD EXAMPLE.

Asheville, N. C., in many respects is one of the model cities of the South. The civic pride of the people is highly commendable and their desire is at all times to secure the best in such line of city improvement. When Asheville first attracted attention as a health resort on account of its salubrious climate, and became the Mecca of Northerners suffering from pulmonary troubles, the people of that city hastened to make the place worthy of the reputation it had earned. Great care and attention was given to the erection and appointment of the hotels for the accommodation of visitors, and in this particular as in others, the good name of the place was enhanced.

From a distinctive health resort, Asheville soon attracted attention as a pleasure resort and now numbers its sojourners by thousands, where a few years ago they were hundreds. One of the first public improvements to which the city authorities gave attention was the care of its streets. Its old fashioned dusty highways were not in keeping with its many other improvements. As is frequently the case in many cities in their early stages of improvement, cheapness is mistaken for economy, and brick pavements were laid in many Asheville streets on account of their low cost. This error of judgment was soon brought home to the city most forcibly. A popular pastime among Asheville's visitors is horseback riding, and the city enjoys the distinction of possessing perhaps the finest aggregation of saddle horses to be found in the country. It was soon made evident that this sport was losing its popularity. None but the most expert horsemen would venture on the brick paved streets. The slipperiness of these pavements during the slightest moisture made them so dangerous as to be avoided by horsemen and teamsters. The dust arising from them was not only annoying but became a serious menace to health. To overcome this the city experimented with a street flushing machine, but the result was very unsatisfactory. The force of water from the flushing machine removed the dust and also removed many of the bricks at the same time, and the uneven condition of the streets made them more dangerous to traffic than before.

It was about this time that the attention of the city council of Asheville was drawn to the success of the Bitulithic pavement and large contracts were made, and have been substantially added to in the meantime. High Point has been considering street improvements and was in doubt as to the class of pavement to be adopted, but with an inspection of the Bitulithic streets in Asheville, a choice was quickly made and several thousand yards of Bitulithic

pavement were contracted for. The attention of a prominent citizen of Norfolk, Va., had been called by a traveling salesman to the excellence of the Bitulithic pavement in High Point, and he wrote to the chairman of the street committee for particulars and received in reply the following letter:

High Point, N. C.
April 13, 1905.

Dear Sir:

In reply to your valued favor of the 8th, it gives me pleasure to furnish you what information I have at my command regarding the question of good streets. Our city has never had any paved streets except the old-fashioned macadam until about a year ago, when we began extensive street improvements and laid about 12,000 yards of Warren Brothers Bitulithic.

After a thorough investigation over the country regarding suitable pavements we came to the conclusion, that, all things being equal, this was superior to anything we had investigated. As yet we have had no reason to change our opinion. I am of the opinion that it is just as durable as the Warren people recommend it to be, and it certainly is superior in many respects to asphalt or other like pavements, for the reason that it furnishes a sure foothold for horses and can be repaired, when it becomes necessary to make a cut in for a sewer, water, or other connections, with very little expense and will make an absolutely tight and secure joint.

From a sanitary standpoint I believe it is probably better than any other pavement.

Our pavement has been in use about one year and a half and shows no defects in any particular.

Very truly yours,
F. N. Tate,
Chairman Street Committee."

LION FURNITURE MANUFACTURING COMPANY.

This company was chartered February 11, 1904, with \$25,000 authorized capital. On the 28th of December following the charter was amended so as to allow \$50,000. Under this charter, the capital stock of \$50,000 was subscribed and paid in. The company purchased 5 1/2 acres of land near the Spartanburg Junction and erected a plant for the manufacture of furniture, which is complete in every detail, at a cost of nearly \$25,000. There are two large main buildings and a dry-kill. It is equipped with the latest labor-saving machinery and is prepared for any grade of furniture. At present the factory is running on 8 or 10 styles of 3-piece bedroom suites and 3 styles of sideboards, all in oak. Last year the company did a business of \$50,000 and this year the volume of business will be double. Three salesmen travel in the interest of the factory and sell directly to the trade. H. E. Ravenel is president of the company and is making a splendid success for the stockholders. The directors are: Andrew M. Adger, Jno. A. Law, J. P. Stevens, H. H. Herring, H. E. Ravenel, Mr. Adger is secretary, T. V. Kirkman is superintendent and has about 70 men at work in the factory. Miss L. U. Morrow is stenographer.

SPARTANBURG LUMBER MANUFACTURING CO.

This company, successors to Taber & Lawton, is operating the wood-working plant of the Morgan Iron Works, and deals in lumber of every description and manufactures doors, sash, blinds, balusters, newels and building material of every description made of wood. They keep a large quantity of all grades of lumber on the yards constantly and are prepared to fill bills from the smallest to the largest, on short notice. Wm. A. Lawton, who is thoroughly familiar with the lumber business in all of its details, is president and manager of the company.

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